REMARKS

The applicants appreciate the Examiner's thorough examination of the application and requests reexamination and reconsideration of the application in view of the preceding amendments and the following remarks.

The applicant appreciates the telephone interview between the undersigned and the Examiner on March 24, 2004 with regard to the Office Action issued by the Examiner.

The Examiner objects to the drawings stating that the inductor 43' and non-invasive coupling and/or capacitor 37' as well as the non-invasive coupling on the powerline as described in the specification are not shown in the drawings. The Examiner also states that Fig. 3 needs to be replaced since all of the details cannot be viewed due to smudging on the page. In response, the applicant submits a set of formal drawings to replace the informal drawings originally filed in the subject patent application. As shown in the formal drawings, Figure 3 includes reference numbers 43' and 37' and shows non-invasive coupling on the powerline as described in the specification. Accordingly, the applicant submits that the enclosed formal drawings overcome the Examiner's objections to the drawings.

The Examiner also rejects claims 38-67 under 35 USC §103(a) as being unpatentable over U.S. Patent No. 5,559,377 to *Abraham*.

Claim 38 of the subject application is directed to a non-invasive powerline communications system comprising means for generating communication signals at a first location for transmission on a powerline, means for reactively coupling the communication signals to the powerline without tapping the powerline, and means for receiving said communication signals at a second location.

One object of the applicant's claimed powerline communications system is to provide communication in a way that "does not require that a direct electrical connection be made to the powerline". Page 5, lines 14-16 of the subject application.

Abraham does not disclose "means for reactively coupling the communication signals to the powerline without tapping the powerline" (emphasis added) as claimed in claim 38. This feature is also present in independent claims 54-57. The Examiner acknowledges in the Office Action that *Abraham* fails to disclose this feature. However, the Examiner asserts that *Abraham* discloses a system using transformers that are reactively coupled to a powerline, and that it would have been obvious to one of ordinary skill in the art at the time of the invention to include a means of communicating signals without tapping the powerline.

As discussed with the Examiner in the telephone conference, the applicant submits that in addition to failing to disclose means for reactively coupling the communication signals to the powerline without tapping the powerline, *Abraham* teaches away from such a structure.

The Examiner asserts that *Abraham* discloses transformer coupling means comprising air coil structures which function as inductively and capacitively coupled air-core transformers for both transmission and reception, and points to Col. 7, line 55 – Col. 8, line 61; Col. 9, lines 58-67; and Figs. 9A-9C of *Abraham*.

However, as discussed with the Examiner, *Abraham* teaches throughout the entire disclosure that the device of *Abraham* taps the powerline through direct electrical connection to the powerline, contrary to the applicant's claims. In the first portion of *Abraham* refered to by the Examiner, *Abraham* states that "[t]he first plurality of capacitors 34 are connected together in series between one of the power-lines 12 and the primary winding of the first air coil 36. The primary winding 38 of the first air coil 36 is thereafter serially connected to the other power line

12". See Col. 8, lines 29-33 of *Abraham* (emphasis added). This portion of the specification refers to Figs. 7 and 8 of *Abraham*, all of which clearly show that the capacitor 34, 42 and air coils 36, 44 are directly electrically connected to the powerline 12. *Abraham* clearly teaches that the device taps the powerline, contrary to the applicant's claims.

The Examiner also cites to Col. 9, lines 58-67 and Figs. 9A-9C of *Abraham* is support of the rejection. However, Figs. 9A-9C are merely illustrations of air cores 36, 44 of Figs 7 and 8, which clearly tap powerline 12. Indeed, *Abraham* states that "the transmitter transformer 36 is connected in series with Ceq, and the powerline 12." Col. 9, lines 61-62 of *Abraham*. Accordingly, this portion of *Abraham* also shows that the device taps the powerline.

The entire disclosure of *Abraham* teaches that the device taps the powerline. In addition to the portions of *Abraham* cited by the Examiner and discussed above, this is also shown in Figs. 4, 6, 6A, 13-17 and 22 of *Abraham*. Nowhere does the disclosure of *Abraham* disclose, teach or suggest means for reactively coupling the communication signals to the powerline without tapping the powerline as claimed by the applicant.

Indeed, *Abraham* teaches away from such a non-invasive system by requiring a direct electrical connection to the powerline throughout the entire disclose of *Abraham*.

As *Abraham* teaches away from a non-invasive powerline communications system which includes means for reactively coupling the communication signals to the powerline without tapping the powerline, it would not have been obvious to one of ordinary skill in the art to include a means of coupling the communication signals to the powerline without tapping the powerline as claimed by the applicant. Accordingly, claims 38-67 are patentable over *Abraham*.

Each of the Examiner's rejections has been addressed or traversed. Accordingly, it is respectfully submitted that the application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this Response is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned or his associates, collect in Waltham, Massachusetts, (781)890-5678.

Respectfully submitted,

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